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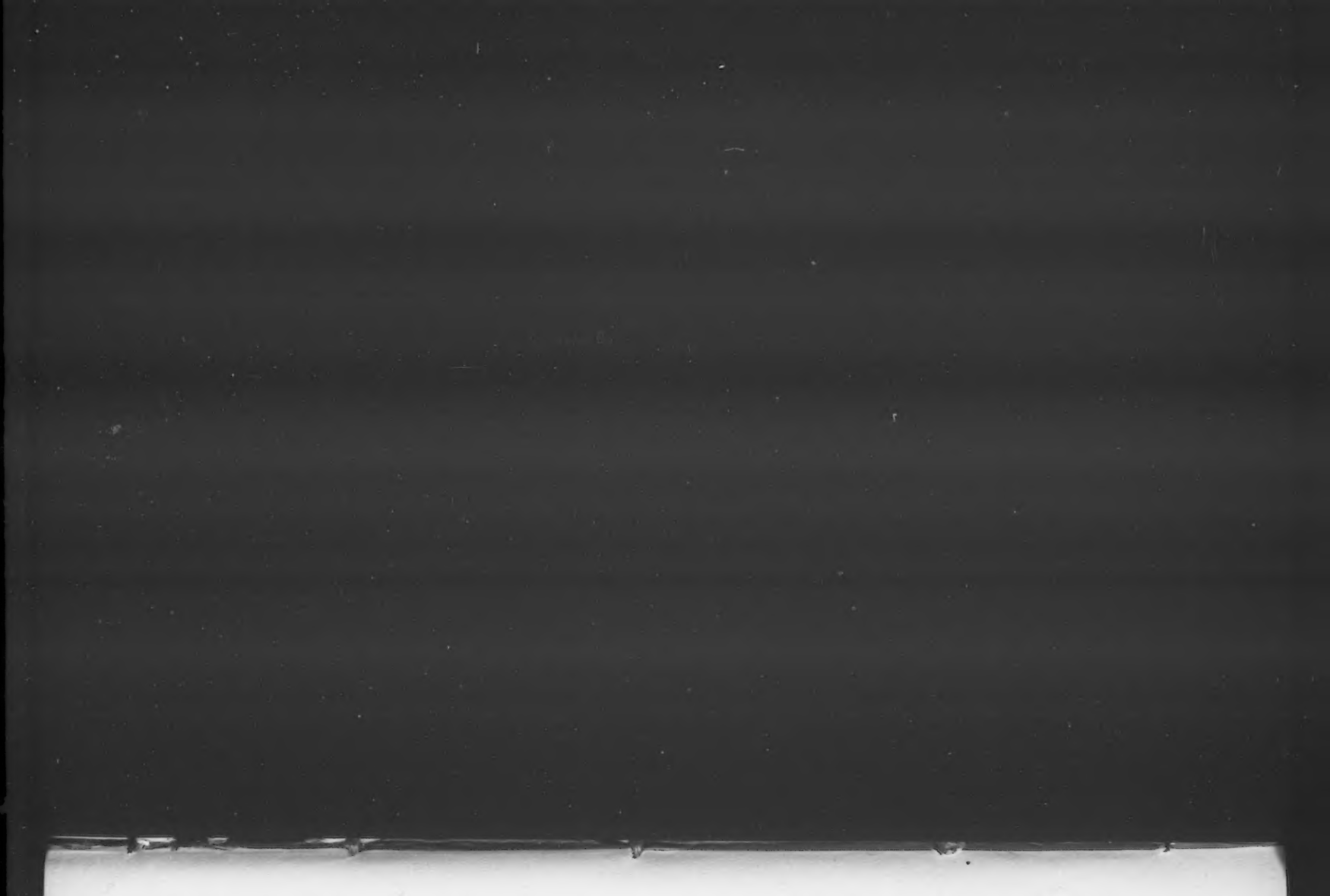

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Volume XVII November-December, 1915 Number 6

THE YELLOW-BILLED LOON: A PROBLEM IN MIGRATION

By WELLS W. COOKE

THE MIGRATION route of the Yellow-billed Loon (*Gavia adamsi*) is probably the most incomprehensible problem of migration on the North American continent. The species breeds on the Arctic coast from Franklin Bay, just east of the mouth of the Mackenzie River, along the whole of the Arctic coast of Alaska, and on the Siberian side west certainly to the Chukchi Peninsula and probably to the mouth of the Kolyma River.

The only place where the species has been found in numbers during the winter season is on the coast of Norway. Here, on the northwest coast in the neighborhood of Tromso, it was common the winters of 1892-3 and 1893-4, and many specimens were taken from September to January. It also ranged along the whole west coast even to the southern end. In addition it is known in winter in Japan and China and as a rare spring and fall migrant around the Sea of Okhotsk. It is unknown in winter anywhere in the Western Hemisphere and there are no records of its occurrence in this half of the world between November and May. It is known to breed in the Mackenzie Valley along the seacoast, and during the summer visits Great Slave Lake, arriving at the western end in May and being present at the eastern end until late October. It is common here in August and early September, and is still more common on Clinton-Colden and Aylmer lakes. The problem is as to whence come the early May birds and whither go the late fall birds.

Since the species is unknown anywhere in the Western Hemisphere in winter, it follows that the breeding birds of the Mackenzie coast winter somewhere in the Eastern Hemisphere, presumably in Japan and China, though the numbers reported from anywhere in eastern Asia in the winter are very small compared with the multitudes recorded throughout the great extent of the summer home. Apparently the real winter home of the great bulk of the species has not yet been discovered.

But assuming that the winter home is somewhere in eastern Asia, then the birds in spring must go on the Asiatic side to the Arctic Ocean and then eastward

to the Arctic coast of Alaska. The earliest birds were noted at Point Barrow May 15, 1882, and May 25, 1883. But already by this date the species has appeared on the Mackenzie near the mouth of the Liard. By what route do these birds reach their destination? They do not come from the south, for the species is unknown in southern Canada at any time of the year. The nearest part of the Pacific Ocean is to the southwest near Sitka, but the birds do not come by that route, for the birds of this part of the country have been closely watched for several years, and the only spring record of the Yellow-billed Loon is that of a straggler seen on Admiralty Island May 25, 1911.

They do not come up the valley of the Yukon, for this species is not known anywhere in the interior of Alaska. The only possibility left is that they come from the Arctic Ocean to the northward. But all the lakes between Great Slave Lake and the Arctic Ocean are still covered with ice and so is the delta of the Mackenzie River. Thus apparently the only solution of the problem is a migration at a single flight from the open waters of the Arctic Ocean across 700 miles of frozen country to the open water near Great Slave Lake. This supposition also requires that the birds pass Point Barrow off-shore many days before they were noted at that place. Thus the spring route from eastern Asia would be first a 2000 mile trip *northeast* to Bering Strait, then 500 miles still *northeast* to round Point Barrow, then 500 miles east to the coast of Mackenzie, and then finally 700 miles *south*—in the spring—to Great Slave Lake. Truly a most remarkable route, but who will suggest a route more plausible?

The route is apparently reversed in the fall. The species is common on Great Slave Lake until the middle of September, and Sir John Franklin says that near there at Fort Enterprise this species was the last water bird to leave, October 26, 1820. By this time the smaller lakes and streams were closed by the ice, but there would still remain enough open water in the larger lakes and the Mackenzie River for the birds to work their way *north* in the early winter the 700 miles to the open Polar Sea. Then there would still remain a 3000 mile trip to their winter home and they would be passing Point Barrow in November weeks after the last of the birds which nested there had disappeared, for the latest fall date at this place is September 25, 1897. And so this article closes with a reiteration of the opening paragraph: The migration route of the Yellow-billed Loons which visit Great Slave Lake is the most incomprehensible problem of migration on the North American continent.

Washington, D. C., August 18, 1915.

NOTES ON THE NESTING OF THE WHITE-TAILED PTARMIGAN IN COLORADO

By W. C. BRADBURY

WITH FIVE PHOTOS

ON MAY 7th of this year (1915) I sent out a party of four young men, with team, camera, camping outfit and equipment, for the purpose of collecting the rarer varieties of eggs and birds nesting at high altitudes, this in the interests of the Colorado Museum of Natural History, Denver. Commencing at the foot-hills near Morrison, Colorado (altitude 5750 feet above sea-

level), the party worked steadily upward until they reached, on June 10, St. Mary's Lake, a small body of water at the foot of a glacier in Clear Creek County (altitude about 10,800 feet). Here camp was located to allow of hunting for the White-tailed Ptarmigan (*Lagopus leucurus*), Leucosticte, Pipit, and other species nesting at and above timber-line (at this point, about 11,000 feet altitude), and for the Kinglet, Hermit Thrush, and other species nesting shortly below timber-line. The party spent several days, prior to my arrival there on June 20, in a fruitless search for nests of the ptarmigan, although daily seeing more or less of the birds.

Owing to this location being adjacent to some of the oldest mining centers in the state, the birds are scarce; but mining friends having reported seeing a few months previously several flocks in the full white winter plumage, I selected this site for work. This was desirable also on account of accessibility, we being

Fig. 71. NESTING GROUND OF WHITE-TAILED PTARMIGAN, AT 11500 FEET ALTITUDE IN CLEAR CREEK COUNTY, COLORADO; NEST AND EGGS TAKEN NEAR HERE JUNE 26, 1915. ROCK-PILE IN BACKGROUND FREQUENTED BY BROWN-CAPPED ROSY FINCHES.

able to get by wagon nearly to the camp site above referred to.

Immediately upon my arrival we devoted our entire attention to search for ptarmigan nests, as neither our museum nor myself had a representation of the eggs of this species. As these birds do not nest in this state below timber-line, our easiest approach to their nesting grounds was by foot up a glacier approximately a mile long, which landed us upon a wide expanse of comparatively flat, rolling ground, terminating at the base of James Peak and Mount Bancroft, and covered with the short grass and other scrubby plant growth peculiar to that altitude. Much of this tract was still covered with snow, and the balance mostly wet and sloppy from the melting drifts, thus making it necessary to wear rubber or other water-proof boots.

Being but little conversant with the nesting habits of these birds, we nat-

urally first directed our search to the sloping hillsides from which the snow had vanished. The ground here was comparatively dry and well covered in places with large and small boulders, and with better grass and vegetable covering for nest sites.

The first day we saw seven ptarmigan, three pairs and a single cock. We searched diligently for their nests until about three P. M., when we repaired to a large pile of jagged rocks and boulders standing out in the open ground, altitude about 11,700 feet, (see fig. 71), where on two previous occasions my assistants had seen a pair of Brown-capped Rosy Finches (*Leucosticte australis*) and had spent an hour or two each time in unsuccessful waiting, watching and searching for their nest. Finding the male bird present and the female shortly appearing, I decided to make another thorough search, which we did, scattering

Fig. 72. MALE WHITE-TAILED PTARMIGAN PHOTOGRAPHED NEAR THE NEST, JUNE 21, 1915.

our forces systematically, and as thoroughly as possible investigating the openings, with flash-lights and otherwise, for a couple of hours, but with no better results.

On our arrival there we noticed a pair of ptarmigan not over forty to fifty yards from us in the open, paddling around in the wet sloppy grass and water, and I told my associates to keep an occasional eye on them while we completed our leucosticte search. This being finished we turned our attention to the ptarmigan, which had not moved over fifty feet during the two hours, but only the cock was in sight. We all scattered out in search for the hen, devoting our attention mostly to the adjacent comparatively dry spots. We knew she had not flown and yet we were unable to locate her. This was aggravating, and we

came together for a conference; and while discussing the matter Olson broke out laughing and pointed down to the ground, where, within six feet of me and not ten feet distant from any one of us, was the bird resting down flat in the grass. I supposed she was simply crouching and hiding, as I had seen them do before, there being nothing to suggest a nest. Telling the boys to stand still where they were, I approached her cautiously from behind and inserted my hand beneath her, at which she ruffled, scolded, turned her head and pecked my hand several times. Raising her sufficiently from the nest to look beneath I discovered two eggs lying there in water. I then let her gently back on to the nest, she still clucking and pecking at me, my hand being wet from contact with her.

It being wet, sloppy ground all about, water in the nest, and melting snow within fifteen or twenty feet, the conditions surprised me, and I remarked to the boys that, barring the altitude, it was more suitable ground for the nest of a grebe or Black Tern than for a ptarmigan. I then had Durand prepare his camera and photograph her on the nest (see fig. 73). I then lifted her, on my hand, out of the nest and placed her down within a foot of it, she still scolding and pecking my hand, and he again photographed her and nest (see fig. 74, showing the eggs lying in about a half-inch of snow water). He then photographed the cock (see fig. 72), which was and had been during all this time not over twenty feet distant from us and the hen and nest. We then left the birds, and repaired to camp some one and a half miles distant, hunting over the bare ground en route, with no other results than a couple of pipit nests.

The next morning, June 22, we were off at seven o'clock, with lunches, glasses, etc., taking no camera, as Durand had previous to my arrival secured a good series of ptarmigan photos, covering the same ground as on the previous day, with much additional territory, but, though we located some six or eight pairs of ptarmigan and two single cocks, we failed to discover another nest.

On our return trip, we visited the site of yesterday's find and, though the ptarmigan were not in sight, I told the boys to watch for the leucosticte while I inspected the ptarmigan nest, which I had yesterday marked carefully with a small pile of stones on a flat rock, with a tag marked "15 feet due west." Notwithstanding this, a five minutes search did not reveal the nest, at which I called the boys down. They came, laughing, to where I was and stood looking in amazement for a moment, when Olson said "Why, it was right beside that stone your foot is on!" A closer search with the aid of the fingers revealed the nest, lightly covered with dead grass that obscured the eggs, and looking exactly similar to, and indistinguishable from, a dozen other barren spots the size of one's hand, or larger, over which the wind had blown a light fluffy deposit of dead grass. An examination disclosed the two eggs, only, still lying about half submerged in snow water. Leaving the cover as nearly as possible as found, we departed for camp.

On the way to camp, I decided on the following plan, which I unfolded to the boys after supper and instructed them to carry out the next morning. Each was to roll up some of his bedding and canvas for sleeping purposes and take sufficient food for four meals, together with such other appliances necessary (omitting cameras and other heavy stuff) to prepare him for stopping over night; leave the glacier about two-thirds the way up, for the first promising ground, then scatter out and, as soon as a bird or pair of birds were found, Durand, who was in charge, should leave Olson with the bird or birds and have him not lose sight of them under any circumstances until it was too dark for him to see; then he should camp right there with the bird or birds until morning

and at dawn relocate them before breakfasting, and continue that careful watch until the following night, unless in the mean time he tracked the female bird to the nest. Durand and the other man, Barton, were to pursue exactly the same tactics when they located further birds.

This plan was followed out on Wednesday, June 23, but being personally under the weather that day I did not accompany them, but promised to and did follow them up the next morning. The results were as follows: In the morning near the head of the glacier they first found a cock bird in approximately the same spot we had once before seen him, and, on another occasion, had seen a pair together but had failed to find their nest. Durand, feeling somewhat irritated at this, deviated from my instructions to leave one man, to the extent of all three of them stopping, unloading their outfits, receding a hundred or so yards and there separating fifteen or twenty feet apart and thoroughly combing the ground again well up the slope of the comparatively steep hill on one side, which was bare of snow, down to the glacier on the other side and continuing this for approximately two hundred yards up the gulch beyond

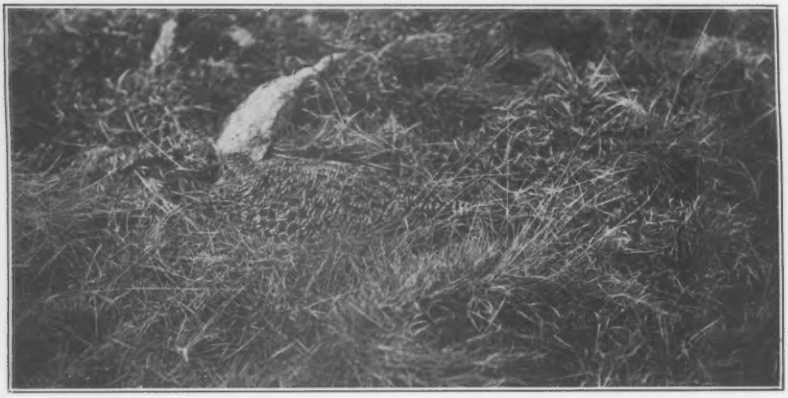

Fig. 73. Female White-tailed Ptarmigan upon her nest; photographed June 21, 1915.

where the male bird was discovered and still remained; this, however, without results. They then came together to discuss further methods and while so doing, as on the previous occasion, one of them pointed down to the female bird, within six or eight feet of where they stood, on the nest, and upon raising her by inserting the hand beneath her from behind disclosed five eggs. This nest, located alongside a jagged rock about two feet high, was but a bare pretense for one, with just a trifle of dry grass and six or eight feathers of the bird in the bottom, and a small bunch of dry grass pushed to one side, with which to cover the eggs when she left them. The bird was replaced and left on the nest.

On following the party up next morning, I first found Olson, about a mile beyond the nest just described, lying on his blankets and watching a pair of ptarmigan which he had located about noon of the previous day and camped with as instructed. After lying down and talking with him awhile, he having told me of seeing, while watching the pair, several ptarmigan fly across a gulch below him just before dark the previous evening and also shortly after daylight

that morning, I instructed him to go and prospect that gulch, which we had not previously worked, and I would stand watch on his birds. This I did for about two hours, during which time they were never more than twenty-five to forty yards from me. I carefully avoided going near enough to disturb them and they did not move out of a radius of more than twenty yards, occasionally moving around very slowly, picking buds from small scrub bushes a foot to eighteen inches in height, then lying down just behind a rock or under the edge of a bush, generally on the opposite side from me. At times I carefully walked around to make sure they had not sneaked off, and found them crouched down apparently asleep or resting. Finally they slowly walked over a very slight rise in the ground, about forty yards distant, and disappeared. Immediately

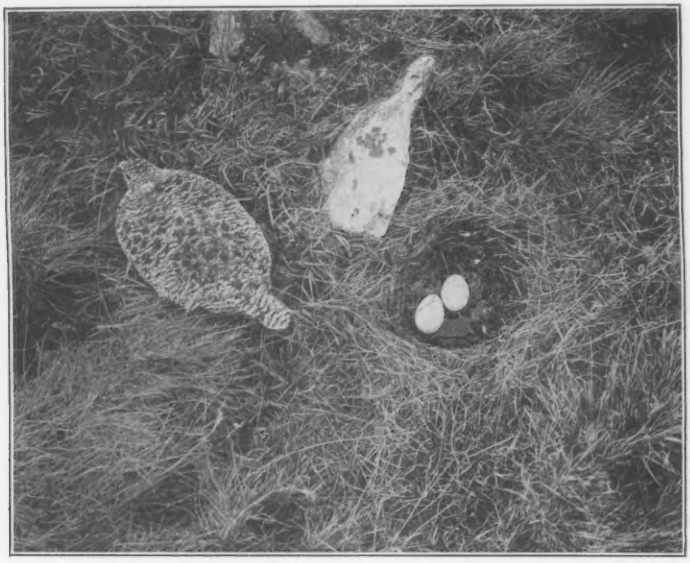

Fig. 74. THE WHITE-TAILED PTARMIGAN SHOWN IN PRECEDING PICTURE HAS BEEN LIFTED FROM HER NEST BY HAND, DISCLOSING THE TWO EGGS LYING IN HALF AN INCH OF SNOW WATER; PHOTOGRAPHED JUNE 21, 1915.

leaving my blankets I deliberately walked over to ensure not losing sight of them, but, although they had not been out of my sight two minutes, was unable to find them. I unavailingly scoured the ground for a half hour. I know absolutely that they did not fly; there was no shelter for them except the very slight ridge that extended up for one or two hundred feet, and an occasional small patch of from one to four or five square yards of the short bush referred to, and a few projecting rocks, all of which were thoroughly prospected.

About this time Olson returned and joined me in the search, but we found no sign of the birds. He then told me that in the case of the first pair he located and camped with the previous day, after finding the nest with the five eggs, he had had exactly the same experience, except that after they disappeared he

hurried to get in sight of them again and saw them streaking it out, running like a pair of wild turkeys, until seeing him when they took wing.

The next pair of birds was located by Durand and Barton near Stuart Lake, a small artificial reservoir in a cañon at the head of a fork of Fall River (altitude 11,400 feet), on rough rocky ground. This pair we had seen in the same place before.

The following are extracts from Barton's notes: "Located birds about 2 P. M. near patch of bushes, and I sat down near by; they paid no attention; would sit down awhile and then feed, scratching about roots, grass and plants. Hen paid little attention, but cock, generally between me and hen, always on lookout and occasionally flew short distance, soon returning; both birds would at times lie down in puddles of snow water and pant with heat, while I was cold. About dusk (8 o'clock) they were more restless. At daylight next morning they were where I left them at dusk the night previous. Started feeding about 9 o'clock and would feed up to within a few feet of where I lay on rock. While eating lunch, and at other times when lying down, threw scraps of bread to them, which they would pick up and eat, at times within a few feet of my feet. At times cock would reply to calls of another cock on hillside; at other times would not answer. Was with them until I had to start for camp, about 4 P. M., during which time, since located at noon of day previous, they had moved in radius of only a hundred or two feet."

A third pair of birds was located by Durand about 2:30 o'clock on a small knoll a short distance up the cañon above Barton, and I quote from Durand's notes regarding the same: "After locating birds, having left my blankets and outfit with Olson, I went back a mile and a half and got them, returning at about 3:30 o'clock. Found the birds just where I left them. Although I was chilly, the birds were sitting about panting, occasionally crawling or slowly moving about. Toward evening birds began feeding. I had to build a fire to keep warm. About 7:45 o'clock (nearly dark) they seemed more restless and suddenly started to run (didn't believe it possible they could run so fast) up steep bank of snow, to wall of rocks where they disappeared. Next morning they were back to foot of snow bank. Watched them until 4 o'clock P. M.; behaved same as day before. No nest."

On returning to camp we visited the nest discovered Monday with two eggs in it, and it now contained four; we also visited the nest found on Wednesday and it now contained seven eggs; both birds being on the nests, they were raised by hand sufficiently for the purpose of inspection and then left undisturbed.

The following day, Friday, we did not visit the ptarmigan ground, but went to an opposite ridge at a lower altitude in search of Kinglet, Hermit Thrush and other nests located, in course of construction or with incomplete clutches, about a week previous, and of such other specimens as we might find.

The next day, Saturday, we repaired again to the ptarmigan ground, first visiting the site of the nest left with the seven eggs in it, only to find the bird and eggs gone. I at first charged it up to either a fox or weasel, but upon second thought had to abandon that idea, there being about the nest no signs of broken eggs, nor parts of egg shells, nor any feathers indicating that the bird had been eaten or in a struggle. A further examination disclosed the tracks of two men, who had come up the glacier the day previous, leaving the same at an angle heading directly for the nest, which was not over thirty feet distant from the edge of

the snow and their tracks in it. I did not know who they were, but could they have heard my remarks regarding them, we should doubtless have become much better acquainted.

From here we proceeded, in a disgusted mood, to the other nest in which we had left four eggs, and finding the bird on the nest, presumably laying an egg, left it undisturbed. Returning toward evening, after a further fruitless search, I found the bird still on the nest, and after thinking the matter over and deciding that I might, between foxes, weasels and bipeds, lose that set also, I took both the bird and the eggs (now five) from the nest, which was now nearly dry.

In preparing the skin of the bird that evening, we carefully examined the

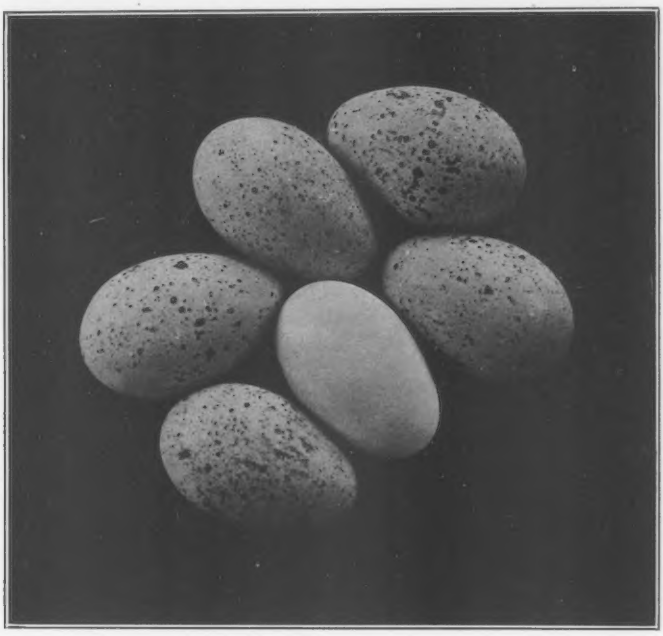

Fig. 75. Eggs of White-tailed Ptarmigan, the five spotted ones taken from the nest, the unmarked one from the oviduct of the bird captured on the nest.

ovary and oviduct which contained six eggs ranging from the size of a bean to practically a full sized egg.

The measurements in inches of the five eggs taken from the nest were: 1.73x1.15, 1.72x1.15, 1.72x1.13, 1.75x1.13, 1.72x1.15.

The measurements of the egg taken from the oviduct were slightly less, being 1.70x1.10, with no perceptible difference in thickness or firmness of shell; but what impressed me as unusual was the fact that this egg was pure white, with no indication of any markings whatever, whereas the five eggs taken from the nest, notwithstanding the fact that much of the time they had been partly immersed in water, some of them for nearly a week, were all uniformly and nor-

mally marked (see fig. 75). This raised the question in my mind as to when and at what stage the pigment is deposited on the shell, and I would be pleased to be enlightened by some one more versed in the matter than myself.

The bird had deposited only three eggs in the nest during a period of five days, and either it was on the nest at the time taken, for the purpose of depositing this white egg, or else resting after having laid her fifth egg; in the latter case she had laid but one egg in three days.

The only other records I have of nesting dates of this species are those of Carter (deceased) of Breckenridge, Colorado, and are as follows: June 17, 6 eggs; June 27, 5 eggs; July 2, 6 eggs; July 6, 6 eggs.

Although more or less familiar with these birds for the past thirty years (though I never before searched for their nests), I never saw one run or move on ground faster than a turtle, or before heard of it.

I am convinced the finding of a nest, unless the bird is on it, would be pure accident. That if they build, or line, any systematic nest it is done as with many species of ducks, i. e., while they are laying their clutch and during the incubation of same.

The moulting of the females was much farther advanced than that of the males. The males always appeared more on the alert than the females (compare the photos). The moulting had made marked advancement between June 11 and 21.

Having always considered the ptarmigan the champion fool of all land birds, relying almost solely on its protective coloration and slow movements for safety, it maintained this reputation with me in all the preliminaries of this trip, but when it came to the finals in matters of nidification and the perpetuation of its species it created an admiration for its tact and ability in outwitting us in fine shape; but I am in hopes of getting the resultant grouch out of my system during the next nesting season.

Being taken seriously ill on Sunday, I had to be quickly removed to a lower altitude for treatment, and on instructions the boys broke camp and followed me the next day.

Denver, Colorado, October 12, 1915.

CHARACTERISTIC BIRDS OF THE DAKOTA PRAIRIES

II. ALONG THE LAKE BORDERS

By FLORENCE MERRIAM BAILEY

THE BIRDS of the prairie region include not only those of the open grassland, such as Prairie Chickens, Upland Plover, Short-eared Owls, and Bobolinks, but also those of the brush patches and timbered borders of the numerous prairie lakes, together with those that frequent the sloughs and marshes and the lakes themselves.

The Stump Lake wheat farm where I spent part of the summer was east of the hundredth meridian, but its proximity to the arid regions was attested by the alkaline water of the lake and lines of frothy suds along its shores, while partly buried but well preserved bones of buffalo that had come to water from the surrounding prairie were to be picked up along the beaches. In the first

excitement of hearing Western Meadow-larks and watching Sharp-tailed Grouse in the potato patch, and those arctic breeders, the White-winged Scoters out on the lake, I found myself hoping for old western friends and new and interesting strangers; and, slow to give full weight to the fact that we were east of the hundredth meridian, was loth to acknowledge that the four birds whose songs were most continually in our ears at the farmhouse were domestic eastern friends—the Baltimore Oriole, Rose-breasted Grosbeak, Warbling Vireo, and House Wren.

These, like all the other tree-nesting birds of the treeless prairie region, of necessity gathered in the hardwood lake borders, but some of the species would normally have nested not in thick woods but in isolated trees in the open. The song of the Baltimore Oriole like that of the Warbling Vireo came not from elms on a lawn but from the edge of the narrow strip of timber between the farmhouse and the lake, among whose trees were old nest holes of the Golden-eye. The Rose-breasted Grosbeak also sang from the oak woods of this compressed nesting area where House Wrens, Catbirds, Thrashers, Cuckoos, Wood Pewees, Mourning Doves, Bluejays, Crows, Nuthatches, Flickers, Downy Woodpeckers, Long-eared Owls, Swainson Hawks, and Ferruginous Rough-legs were congregated.

The owner of the woods took us down to see a Rough-leg's nest that he had been noticing for years in going for his cows. On the way we visited a Long-eared Owl's nest I had been watching and the interested landlord climbed the tree and counted the five white downy young. He also stopped at several old trees with well known holes in them and pounded on the trunk to see if any Golden-eyes were within.

When approaching the Rough-leg's nest we saw one of the great birds launch from the tree-top into the sky, where it circled slowly around as if on guard. Its mate was still standing on the nest, about thirty feet from the ground in an old oak, when we came up below; and it presented a commanding figure mounted on top of its huge nest. When the farmer started to climb the tree the great bird flew and, joining its mate, circled around overhead, but as the man neared its nest it circled near the tree, screaming shrilly. The nest proved to be about six feet high, so high that the farmer could just reach over the edge. He pulled out a partly eaten Richardson ground squirrel and then held up one of the white nestlings for us to see. Overhead the old birds circled around on set wings, the sunset light reddening their breasts and making a beautiful picture. Sometimes one of them rose and circled high in the sky. Three weeks later one of the Rough-legs was seen flying so low that its ferruginous legs, feathered to the feet, showed clearly. The young were still in the nest but almost full grown and fully feathered. The pellets under the tree were composed of ground squirrel fur.

The lordly birds with their huge old nest proved the appropriateness of the name of the farm—Hawk's Rest—for the settlers had shown a rare appreciation of the services of their raptorial friends. Old hawks' nests were found at different places along the shore, and a second Long-eared Owl's nest and a Swainson Hawk's nest were found not far from the Ferruginous Rough-leg's tree. The Swainson's nest which contained three eggs on June 14, on July 6 had three downy young about a week old. A half-eaten Richardson ground squirrel was also in the nest. The Hawk flew and circled around and squealed when the tree was being climbed and the nest photographed.

In the heart of the woods, Purple Martins, whose raucous notes were fre-

quently in our ears, nested in old hollow oaks. It was peculiarly interesting to watch them here, in a site made to seem abnormal by modern usages. They would dart in and out through the dense foliage of the tree tops so fast it was hard to keep track of them; but one nest hole in the cleft of a tall tree I discovered from a hillside above. Its owner, a handsome effervescent young father, went in and out of the nest hole singing as jubilantly as a Bobolink, standing on the edge and singing down into the hole before going in, and on coming up stopping half way out with only glossy head and breast visible, to burst into his wild jubilant song.

While a good many species nested in the timber, there were comparatively few that nested in the brush patches. In the fringe of bushes between the lake shore and the woods a pair of Brown Thrashers—whom I had seen carrying food June 16—ten days later held me up and *smacked* at me till I discovered a stubby-tailed youngster on a branch overhead. Catbirds also probably nested in this fringe of bushes. On its shore edge, under one of the last silver-leaf bushes, on June 18, I flushed a Spotted Sandpiper from her nest with its four ovate eggs all pointing in. The sweet Sandpiper notes, *per'r'r weet, per'r'r weet,* were often heard along the shore, and a loud musical piping song was heard from one circling in over the beach, answered by the ordinary Sandpiper notes down the shore. A pair of Killdeer was also seen and heard along the beach, but they nested apparently in the corn field near the farm house.

In the silver-leaf patches and wild plum thickets back from the shore three birds were especially abundant, the Bronzed Grackle, the Yellow Warbler, and the Clay-colored Sparrow.

The dense thickets of wild plum and spiny thornapple make good shelter for the Grackle colonies with their big nests and large nestlings. When the old males are interviewing visitors to their noisy colonies the visitors have an opportunity to examine the bronze of their plumage. To eyes familiar mainly with museum skins an old male standing on top of the thicket in strong sunlight is almost startling. The bronze of his back while not as yellow as a newly polished brass knocker has the rich glowing quality of burnished bronze—as if each feather saturated in sunlight reflected it from every barbule. The contrast the bronzy back presents to the iridescent green head is also striking. When the young of a Stump Lake colony were being fed, their parents were constantly seen hunting along the lake shore and flying off with full bills, and by the first week in July the woods between the thicket and the lake were full of Quiscalus families all talking at once.

Besides the thickets of wild rose, wild plum, and thornapple there were acres of that beautiful bush, the silver-leaf or silver-berry. Sagebrush the silver-leaf is called locally, though the sage of the region is the low *Artemisia frigida,* and the silver-leaf is *Eleagnus argentia.* Eleagnus grows head high and over, and its stiff branches with their lovely silver leafage afford safe cover for the gray nests of the Yellow Warbler, *the* Warbler of the region. Not every bush in the prairie country has its Yellow Warbler, but the flash of yellow and the familiar song are such common experiences that you come to realize the truth of the statement that *aestiva* is filling a gap left by nature and filling it abundantly.

Another bird whose voice is commonly heard in the silver-leaf thickets is the Spizella of the prairies, the little Clay-colored Sparrow whose crown when raised looks striped, from its median line, superciliary and line through the eye, and whose white malar streak adds a touch of softness to its plumage. Its call is

an ordinary *tsip*, but its song is individual, a hoarse rasping *kah-kah-kah-kah-kah* that at first surprises and grates on the ear, but as the season waxes comes to be pleasantly associated with the aromatic tang of the blooming silver-leaf, and is peculiarly grateful when several of the little Spizellas are answering each other in the bushes.

Two sets of nests were found in June and July. Young were evidently being fed on June 21, for an old bird with bill full of long wings started and flew straight back into the heart of an argentia patch. In the second week of July two nests were found, one just completed and one containing eggs. The second of these was beautifully located on the edge of a lake. It was quite hidden until the low plants were parted, when a small cup containing three lightly wreathed blue eggs was disclosed lying on the glossy fern-like leaves of a cinquefoil. When examined closely it proved to be made of grass stems and lined with horse-hair.

While the Clay-colored Sparrow and the Yellow Warbler were the two most abundant birds of the silver-leaf, they were not its only inhabitants. On the edge of a patch near the farm a pair of Marsh Hawks hid their nest and valiantly fought their windmills in the form of a perfectly harmless bird student. When I was going to photograph the young, with the assistance of two other women, as we pushed our way through an especially high stand of argentia, a female Mallard burst from her nest in the thicket just ahead of us. We pressed eagerly on to examine it. Twelve eggs lay in the nest, encircled by a high rim of down, and five of them, as the keen eyes of the women from the farm detected, had already been pipped. The old Duck was needed at home now; we must not keep her away. One of the women quickly twisted some green leaves around a gray bush top for marker, while I noted a north and south line from the farm windmill to a tree on the Marsh Hawk slope, and an intersecting east-and-west line marked by wild plum bushes, after which we hurried away to let the old Duck return to hatch out her brood.

But though we left the neighborhood as fast as impeding bushes would permit, the anxious Duck instead of returning to the nest flew out and began to make wide circles around and around us. As she crossed the sky ahead of us with outstretched level head and neck we could see not only her mottled body but white-bordered blackish tail, and at a glint of light caught the violet of her speculum between its white borders. Before we reached the Hawk's nest, when the Duck had completely encircled us five or six times, we interfered with her orbit. Instead of changing it she started back on her track. She was then headed toward the lake, and as if an idea had suddenly occurred to her, made a slight detour and went down to it. When she returned a few moments later she was accompanied by her mate. Together they flew completely around us—we could see his long green head and neck as he passed in front of us—and then as if reassured by his presence or the result of his inspection, or, perhaps, on the decoy principle trusting to his presence to draw our fire, when their circle reached the nest she dropped down to it and he calmly flew off back to the lake.

Whatever it was that she had brought him for, it was a pretty conjugal episode. But as we were moralizing upon it—up rose this Elsa, her Lohengrin being gone, and to satisfy herself more fully proceeded to circle around us once more! By this time, however, our absorption in our task of photographing the Hawks' nest was so reassuringly obvious that even the doubting Elsa seemed satisfied, for she came no more. Presumably she returned to the nest, but we

could not prove it, for when we left we made a wide detour to avoid driving her from her emerging ducklings.

The next day during the first drops of a thunderstorm we hurried down for a look at the nest. This time the mother, instead of bursting out of the patch and flying off, flew low through the bushes, apparently dragging her wings. She might well use her best methods to decoy away intruders, for all but two of her eggs had now hatched. As we leaned eagerly over the nest a hatfull of downy yellow ducklings huddled back under the bushes. We had barely time to notice their brown eye streaks, ducklike bills, and streaked backs, when the storm burst, and descending rain and hail drove us back to the farmhouse.

Two days later, when we went down with the camera, only one egg and a few bits of shell remained in the nest. Our ducklings had gone! They had doubtless been spirited away to some safe harbor, but find them I could not. The parents—if it were they—I did see later, on the beach. Close to the water sat the duck, bill over back, apparently napping, while the drake kept watch. He lay at his ease on his side when discovered, but afterwards sat up on his feet like a more proper guardian, occasionally moving his handsome green head observantly. When his sleeping mate woke she flew off into the lake and he followed, after which they swam around side by side as serenely as if there had never been an Elsa and Lohengrin episode!

Washington, D. C., May 23, 1915.

A CONVENIENT COLLECTING GUN

By LOYE HOLMES MILLER

WITH ONE PHOTO

THE MAN with questionable standards in the matter of Sunday observance or of conformance to public park regulations is not the only man who may be interested in a collecting pistol. Despite the implied shadow upon his reputation, the writer asserts that he has found a collecting pistol an extremely useful weapon. The field trip of other than ornithological nature, where a twenty-eight inch gun barrel would be out of the question; the one hand-bag journey when nothing bigger than a holster gun can be crowded in; the country walk where one may be well within the law of both church and state, and yet not wish to be made conspicuous by a full-grown shot gun; the expedition after lizards;—these are all occasions upon which the collecting pistol has served the writer well. It has added many valuable specimens to his collection and has established one record for the region west of the Rockies.

My experiments began in the high school days, when an old Colt's navy revolver was bored out smoothe, carried to school in a clarinet case, and used on the way as a bird-call. The path to school was four miles long.

This rather heavy ordnance was later supplanted by an old Smith and Wesson pocket revolver with ten inches of brass tubing thrust down its throat and sweated in with soft solder. The most effective weapon, for its size, is the one now used and which forms the subject of this note.

A Colt, .38 calibre, Police Positive Special revolver forms the basis of the

arm. From this gun the rifled barrel was unscrewed and packed away in vaseline. An eight-inch, smoothe-bored, full-choked barrel of lighter weight was screwed into place. The very neat bit of work was done by Mr. W. H. Wilshire of Cline & Cline Co., Los Angeles, California. The result is a light and handy weapon, easily carried in a belt holster, which will chamber a special, long shell. The shells are loaded and reloaded indefinitely according to the following formula: Three grains Ballistite carefully measured, one felt wad 1/8-inch thick, nearly fill with shot and cover with card wad, dip in paraffin.

With the above charge of dust shot, the gun was targeted at forty feet from the muzzle (see fig. 76). The shot was remarkably uniformly distrib-

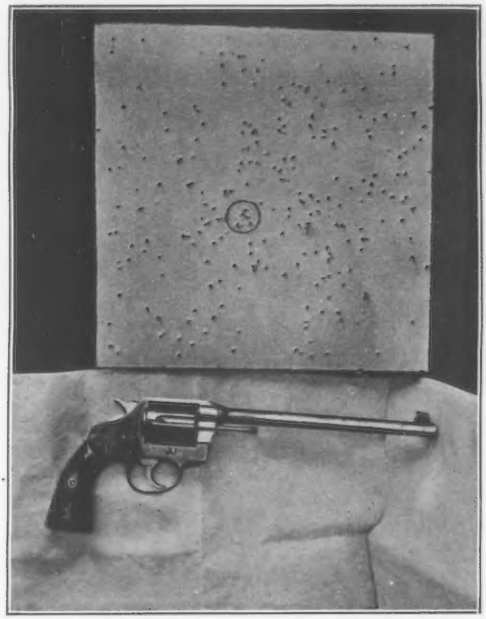

Fig. 76. COLLECTING PISTOL, AND CARDBOARD TARGET FROM THE REVERSE SIDE. DUST-SHOT OVER THREE GRAINS BALLISTITE, AT FORTY FEET. THE SMALL CIRCLE IS ONE INCH IN DIAMETER AND WAS PENETRATED BY FOUR PELLETS.

uted and 83 percent of the charge was placed within a circle of fifteen inches diameter. Dust shot penetrated twenty-five sheets of napkin tissue paper. With no. 9 shot the penetration was sixty-one sheets of paper.

With this arm the writer has collected Spotted Owl, Long-eared Owl, Cooper Hawk, Mountain Quail, Hybrid Flicker, many smaller woodpeckers, and some hundreds of smaller birds. In addition to birds, ground squirrels, chipmunks, lizards and snakes have been taken. The herpetologist needs no other arm.

Of course if you are going on a regular collecting expedition, take a

double-barreled shot gun, an auxilliary, and a rifle if you can, but many of us cannot go on expeditions. To the one who travels "light", this brief discussion is addressed.

I am indebted to Dr. J. Grinnell and to Mr. Joseph Dixon for advice on the use of Ballistite.

Los Angeles, California.

FURTHER REMARKS UPON THE KERN RED-WING

By JOSEPH MAILLIARD

AS STATED in the description of the Kern Red-wing (*Agelaius phoeniceus aciculatus*) in THE CONDOR, vol. XVII, p. 13, the dates on which the specimens therein mentioned were taken (which were May 27 to June 7) were rather late in the season, and on account of the fading and abrasion of the plumage, which deteriorates rapidly as midsummer approaches, these specimens were not in the best condition for satisfactory comparison with other forms of Agelaius. This year (1915), for the purpose of procuring specimens in fresher plumage, a short trip was made by the writer at a somewhat earlier date into that part of the Kern River valley where these birds were found the previous year by A. van Rossem. As it was desirable to avoid the complication of migrations, the latter part of April was chosen as the safest period and a time when migration would be over and local breeding begun.

Dr. Barton W. Evermann, Director of the Museum of the California Academy of Sciences, participated in this expedition, and thanks are due to him not only for his genial companionship but as well for great assistance in procuring specimens, though his main object was botanizing. Specimens of *A. p. aciculatus* were secured on April 17, 18 and 19, and were in much better condition for study and comparison than was the material procured the year before, and from which this form was described.

The study of this new material confirms the conclusions before reached, and also develops the fact that as late as the above dates in April, at least, the middle wing-coverts of the males are apt to have a heavy black tipping. Of twelve males secured eight had all the feathers of the middle wing-coverts tipped with black, some of them quite heavily, three had all but one or two so tipped, while on the remaining specimen the tipping had been worn off on all but two of the feathers. Judging from this, it is reasonable to suppose that still earlier in the spring all the feathers of the middle wing-coverts are tipped with black, and probably rather heavily.

Only twelve males and four females of this form were obtained and among these were no special deviations from the measurements already given in the original description, with the exception of the culmen-from-base of one of the females extending the maximum of this measurement to 24.6 millimeters, in place of the former extreme of 23.9. No minimum extremes were altered by this additional material though the averages of one or two measurements varied slightly from those given in the tables, but not sufficiently to make any practical difference. For instance, the average length of culmen from base in the case of these twelve males is less than that of the twenty-one males

given in the tables, this being caused by a larger proportion of the twelve being under rather than over the average before given, though none fell below the former minimum. On the other hand the average of the same measurement in the four females was greater than that of the eleven females given in the published tables, and the maximum was exceeded. Yet if the two lots had been combined the figures given before would be changed but very slightly. We know that the smaller the number of specimens measured in groups the more the measurements will vary, so this small deviation was to be expected.

These birds were so scarce, and the area in which they were to be found apparently so limited, that it seemed a pity to destroy more than necessary, and what we obtained were enough to sustain the conclusions heretofore reached. Also if this form is as sparsely represented as it appears to be, it seemed unfair for one collector to make so great an inroad into its numbers as to endanger its existence. Hence our weapons were turned away and no more specimens collected.

That the habitat of the Kern Red-wing is extremely limited seems, from our present knowledge, to be a reasonable conclusion, even though it is known to inhabit two districts rather widely separated topographically. The first place where it was found was the "Walker Basin", which is a meadowlike valley of only a few thousand acres in extent, separated from the San Joaquin Valley by a range of mountains over four thousand feet high, its only outlet being by way of a narrow gorge through which the Walker Creek flows into the Kern River, whose bed is at the bottom of a narrow canyon for miles below the point of intersection. The marshy portion of the Walker Basin is so limited that but few individuals exist there. In fact we saw none at all while passing along the edge of this district, but van Rossem took some there in 1914.

As far as we know, the next, and only other, spot where these birds are to be found is on the South Fork of the Kern River, some four or five miles above its junction with the North Fork, twenty-five or thirty miles farther inland than the Walker Basin and separated from it by two fairly high ranges of mountains, the river itself being probably at an elevation at this point of some 3000 feet. Here the narrow valley opens out a bit, to half a mile or more in width, with "fans" covered with desert vegetation running up into the steep canyons that cut into the masses of shattered rock which constitute the mountains on either side. In the comparatively level bottom are small marshy spots and lagunas where bunches of tules or cat-tails grow, while in places water has been brought in from the river and alfalfa or barley is grown.

We found the red-wings mostly in the lagunas, or near them, though some were seen among the hundreds of Brewer Blackbirds (*Euphagus cyanocephalus*) which were following the water as it spread over the fields and feasting on the insects among the alfalfa. The red-wings were usually in small groups or colonies, and far from numerous. In fact we came across but few spots they seemed to favor by their presence. This irrigated strip extends some eight or ten miles up the river to where the valley contracts again and it seems to be the only likely locality in which to expect these birds in all that neighborhood. Inquiry among the ranchers and stockmen living in the valley, the passers-by, and even the indians who are quite numerous there, elicited no information as to any conditions conducive to the presence of red-wings up or down either of the forks of the Kern River, and all who claimed to know

anything of the topography of the country thereabouts asserted that all the valleys were narrow and rocky, with no marshy places nor lagunas of any extent anywhere in those ranges of mountains except just where we were collecting—that is, between Isabella and Onyx, on the South Fork of the Kern.

San Francisco, August 16, 1915.

NESTING OF THE WHITE-TAILED KITE AT SESPE, VENTURA COUNTY, CALIFORNIA

By LAWRENCE PEYTON

WITH TWO PHOTOS

IT WAS in the spring of 1913 that a pair of the beautiful but fast vanishing White-tailed Kites (*Elanus leucurus*) was first seen in this vicinity. My brother Sidney saw the birds carrying sticks to a nest in a eucalyptus tree

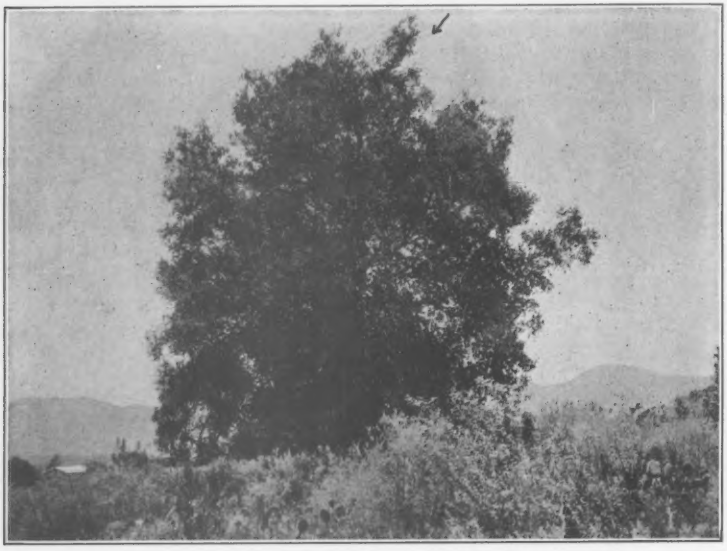

Fig. 77. NESTING SITE OF WHITE-TAILED KITE NEAR SESPE, VENTURA COUNTY, CALIFORNIA. ARROW POINTS TOWARDS NEST.

in the willow swamp about three-quarters of a mile east of home. This nest was not completed, however, probably owing to the persecutions of the Crows.

In 1914 a pair of Kites, probably the same ones, were again located in the willow thickets about two miles farther west, but all efforts to find the nest failed, and it was not until this year that our search was rewarded. On April 22, my brother Sidney, while after bluejay's eggs saw a Kite fly from a nest in the top of a small oak tree about one-half mile north of home. On climbing to the nest, which was about 18 feet above the ground, he found it contained three young about a week old and an addled egg, which latter he took.

On April 25, while scouting around in the same neighborhood, he located another nest within two hundred yards of the first and also in an oak tree about twenty feet above the ground. This nest contained three small young and a heavily incubated egg. Both of these nests were within a short distance of the Japanese quarters of the Rancho Sespe.

On April 27 another visit was made to both nests. Nest no. 1 was all right; but on climbing to no. 2, the three young were found to have disappeared, although the egg was left. No trace of the young could be found although the old birds were seen later. On May 7 we both made a visit to nest no. 1 to take some photographs (see figs. 77, 78). The young had grown considerably and manifested some uneasiness if we came very close. The nest

Fig. 78. YOUNG WHITE-TAILED KITES IN THE NEST; PHOTOGRAPHED MAY 7, 1915.

contained a considerable quantity of rabbit fur and the entire body of a field mouse. On the morning of May 16 we paid our last visit to the nest. The young were nearly ready to leave and one adventurous youngster did essay a weak flight into a sumac bush about fifty yards distant, where he was caught by a Japanese laborer. After photographing him at close range he was returned to the nest tree.

In the afternoon of this same day my brother found another Kite's nest, partially completed, in the top of a big sycamore three-quarters of a mile east of home. One week later this nest contained four beautifully marked eggs. This was undoubtedly a second set laid by the birds of nest no. 2. Nests nos.

1 and 2 were both fairly substantial platforms of oak twigs lined with weed stems; but nest no. 3 was very flimsily constructed of willow twigs and lined with rootlets.

At no time were the old birds aggressive. They usually left the vicinity of the nest as soon as we came within fifty or sixty yards. The only note we ever heard them utter was a sort of plaintive whistle. One morning, while working near the nest, my brother saw one of the Kites returning from the direction of the river with something in its claws. While still some distance from the nest it began calling and was quickly joined by the other bird. The first bird remained hovering in the air like a Sparrow Hawk, while the other darted up underneath it, took the food from its claws and returned to the nest while the other sailed away.

Sespe, California, August 10, 1915.

ADDITIONAL OBSERVATIONS ON THE BIRDS OF THE LOWER COLORADO VALLEY IN CALIFORNIA

By A. BRAZIER HOWELL and A. VAN ROSSEM

THE FOLLOWING paper is meant to supplement J. Grinnell's "An Account of the Mammals and Birds of the Lower Colorado Valley" (Univ. Calif. Publ. Zool., XII, 1914), and contains only such notes on the birds of the region as would seem to be of especial interest in connection with that publication. The present writers spent from January 13 to 31, 1913, camped on the river bottom of the Colorado, with headquarters some four miles below Potholes, on the California side. It will be recollected that this was immediately after the big freeze of two years ago, and for that reason it is possible that the conditions as we found them did not present altogether a normal aspect. Our work was mostly confined to the arrow-weed association with the intervening patches of cultivated ground, and to the bordering mesquite thickets. Some little collecting, however, was done back in the dry arroyo beds, and in the patches of sahuaros a few miles above Potholes. This general locality presents unusually interesting features and merits much further work on the part of ornithologists, especially in the summer and early fall.

Marila valisineria. Canvas-back. We found this duck to be rather common. Two that were shot on January 21 and 28, respectively, were feeding in an abandoned canal that was thickly surrounded with brush, and in which the water was not over four feet deep. This was obviously a poor place for them, and it was not until we spent a day, the 28th, among the sloughs above Laguna Dam that we met with them in any numbers. Here a number of flocks were noted and an adult male secured by a Mr. Reckart. The latter person, who was thoroughly familiar with the ducks of the region, assured us that during some winters, the "Cans" were present by the thousands, while but very few were seen in other years.

Dendrocygna bicolor. Fulvous Tree-duck. One of these birds flew close over van Rossem on the 17th, allowing him to be positive of its identity.

Herodias egretta. Egret. A few may possibly breed near Yuma, but it is pretty certain that the majority of the birds to be seen here during the winter, have come to us from farther south. We were told on good authority that a flock of thirty or forty had been roosting for weeks on one of the islands above the dam. A number were seen by us on the 28th, and a male was secured on which the plumes of one side of the back

were almost completely developed, while those of the other side had but recently burst the envelopes.

Porzana carolina. Sora. Quite abundant in suitable spots. In the heavy growth bordering a slough near our camp, numbers were seen, and one taken on the 14th.

Chaemepelia passerina pallescens. Mexican Ground Dove. A sharp watch was kept for these birds during our stay, but it was not until we were on our way home, about two miles east of Fort Yuma, on the Imperial Valley road, that we encountered them. Twelve or fifteen were observed within a mile and a half, and two pairs secured. They were all feeding in the road, in little parties of two or three, and those shot contained many tiny black seeds, which had evidently fallen from a certain tall weed which thickly bordered the roadway.

Speotyto cunicularia hypogaea. Burrowing Owl. A pair was noted on the 13th, well back from the river bottom.

No **Micropallas whitneyi** (Elf Owl) was seen, although we examined fifty odd, likely-looking holes, all that were to be reached with the aid of a good ladder, on the 30th. Indubitable evidence of their recent presence was secured in the sahuaros, however, in the way of feathers, pellets and excrement. A number of the holes had been chopped out very recently, and whether the lack of owls was due to the industry of some collector that had preceded us, or to the possibility of the extremely cold weather having caused them to undertake a temporary visit to the southward, we are unable to say.

Centurus uropygialis. Gila Woodpecker. This species proved to be quite abundant among the cottonwoods and willows of the bottoms. They were feeding almost exclusively on the berries of the mistletoe. These, however, never seemed to be completely digested, and when a bird was shot, it would void a quantity of sticky, green pulp and seeds, which was very hard to remove from the feathers. Almost without exception, we found the birds to be infested with numbers of a long slender tape-worm, in some instances, in almost sufficient quantities to clog the intestines.

Colaptes chrysoides mearnsi. Mearns Gilded Flicker. These were present in small numbers, but *C. cafer collaris* exceeded them in numbers, in the ratio of about fifteen to one. The latter form must be merely a winter visitant to the region, while the former is resident; but two birds were secured which showed all the characters of hybrids between the two. On the 27th we came upon two *Colaptes* that were going through elaborate courting antics on a horizontal branch. Upon shooting these birds, we were much surprised to discover that the male was a Red-shafted and the female a Mearns Gilded.

So-called hybrids between *Sphyrapicus varius nuchalis* and *S. ruber ruber* have been taken in many parts of the west. An adult male which showed a blending of the characters of the two forms in about equal proportions, was secured on the 17th.

Myiarchus cinerascens cinerascens. Ash-throated Flycatcher. We found, as Grinnell surmises, that this species is a winter visitant to the region, and apparently a regular one, for if such is not the case, this cold snap would assuredly have caused them to move farther south. They were not by any means abundant, but one was sure to be seen every two or three days, and several were collected. The cold nights, with temperatures well below freezing, must have greatly reduced their food supply.

Empidonax griseus. Gray Flycatcher. A female and two males of this form were taken, and two other birds seen, which would indicate that the species winters here.

On the cultivated fields of the lowlands we encountered mixed flocks of female *Otocoris alpestris pallida* and *O. a. leucolaema.* Among the scores seen, we searched carefully for males, but not one was noted. On the mesa lands well back from the river, however, we found only *pallida*, and although a score or so were seen and several taken, no females were observed.

Agelaius phoeniceus sonoriensis. Sonora Red-wing. Small flocks were frequently seen during our stay, and a number of specimens taken, all of which were crammed to the bill with kaffir corn seeds. Well over a hundred birds were observed close enough to distinguish between the sexes, and of these, but two were males. Near the Chiricahua Mountains, Arizona, Mr. van Rossem found a similar state of affairs last winter, as regards red-wings. Flocks of hundreds were seen almost daily for a while, but as far as he was aware, there was not a male in the vicinity.

Spizella breweri. Brewer Sparrow. This species winters abundantly in certain parts of the Imperial Valley, but they are evidently not so partial to the valley of the

Colorado as a winter home. We could always be sure of finding a few of them in certain favored spots, but they were very wary.

Junco hyemalis thurberi. Thurber Junco. Grinnell reported but one of these birds, which was obtained farther up the river, while we saw at least eight, and secured three. Their presence may have been partly due to the low temperature.

Melospiza lincolni lincolni. Lincoln Sparrow. Grinnell is of the opinion that a large proportion of those birds which his party saw (after February 26), had not spent the entire winter in the region. We, however, found the birds to be common in suitable places throughout our stay, and, since they are never much in evidence, they were probably even more common than was apparent. A specimen taken on the 14th was intermediate in characters between this form and *striata*.

Pipilo maculatus curtatus. Nevada Towhee. A single male of this form was secured on the 23rd, making this the southernmost station from which it has been reported.

Vermivora celata lutescens. Lutescent Warbler. An individual was shot on the 24th. This would seem to indicate that the subspecies occasionally spends the winter.

Oreoscoptes montanus. Sage Thrasher. A single bird was seen and taken on the 30th.

Toxostoma lecontei lecontei. Leconte Thrasher. The only bird of this species noted on the trip was one seen from the automobile as we were driving in the vicinity of the sahuaro grove above Potholes, January 30. Although reasonably close, the guns were not handy, and it escaped.

Sialia mexicana occidentalis. Western Bluebird. Bluebirds were encountered in small numbers. Of the two males secured, one is practically indistinguishable from specimens of *bairdi* from Arizona, while the other exhibits characters intermediate between that and typical *occidentalis*. As lots of birds from the Sierra Nevada of California also have the main characters as given for *bairdi*, we are at a loss just how to place our Fort Yuma specimens. Much work remains to be done with this group.

Covina, California, September 25, 1915.

FROM FIELD AND STUDY

Arizona Hooded Oriole in the Fresno District.—On May 26, 1915, a male Arizona Hooded Oriole (*Icterus cucullatus nelsoni*) was found among the raisin boxes in a shed on the Borell place, four miles west of Fresno. It was collected by Adrey Borell and the skin, in a somewhat mutilated condition, is now in my collection. During the following week three more males were seen at close range. All were in full plumage and alone.—WINIFRED N. WEAR, *Fresno, California.*

Nesting of Wild Ducks near San Francisco.—During the spring and early summer I visited Merced Lake a number of times for the purpose of taking a bird census of the region as requested by the Biological Survey. The following species of wild ducks were found to be nesting in the vicinity:

Mallard. On April 22, I flushed a Mallard from her nest. At that time the nest contained seven eggs, but on April 28 it contained ten. After sitting on the eggs about ten days the duck abandoned it though she stayed in the vicinity for a number of days.

Lesser Scaup Duck. A male of this species was seen on nearly every visit to the lake. In July this male, in company with a female and three young not yet old enough to fly, was seen out in the lake. The distance was too far for positive identification of the female, but it seems probable that a pair of this species nested in the vicinity.

Ruddy Duck. These were the most numerous ducks about the lake. They probably nested in considerable numbers, though no nests were found. Young of this species were seen in some numbers during July and August and must have been hatched in the vicinity of the lake, as they were not yet able to fly.

On June 5 of this year I visited Stow Lake and the other lakes of Golden Gate Park for the purpose of making an estimate of the number of wild ducks summering there. In all, 169 ducks were counted. They were of the following species: Mature Mallards, 66; young Mallards, 70; total Mallards, 136; Ruddy Ducks, 6; Baldpates, 2; Lesser

Scaups, 17. A week later six young Ruddy Ducks were seen, so at least two species are nesting in the park. The presence of the Scaups in considerable numbers and the late lingering of the Baldpates is of interest.—W. A. SQUIRES, *San Francisco, California.*

Western Bluebird Nesting in Los Angeles.—Dr. Miller's notes on the Western Bluebird (*Sialia mexicana occidentalis*) in a recent CONDOR recalls some old notes of my own. In 1892 a pair of this species persisted in trying to nest in a mail box on the corner of Solano Avenue and Buena Vista Street (now called North Broadway), Los Angeles. The birds considered the mail box a wholly suitable place, but the mail man and the owner objected. In spite of the resulting discouragements several eggs were laid before the Bluebirds gave up the site. I have forgotten the number laid, but I had one in my collection for several years and I am under the impression that they laid a complete set before abandoning the site.—W. LEE CHAMBERS, *Eagle Rock, California.*

The Hermit Warbler in Berkeley.—The Hermit Warbler (*Dendroica occidentalis*) has been reported from Berkeley, California, but once, and that was thirty years ago, in 1885 (Belding, Land Birds of the Pacific District, 1890, p. 215). It may therefore be of interest to know that on May 10, 1915, I found one feeding with a flock of Townsend Warblers (*Dendroica townsendi*) in the oaks near our house in Strawberry Canyon. On May 11 a large flock made up mainly of Townsend, Pileolated, and Yellow warblers sheltered several Hermit Warblers, and on May 12 the songs of the Townsend and Hermit warblers were heard more frequently even than that of the Pileolated Warbler, which was already nesting in Berkeley, though many others seemed to be in the migrating flock. The last Townsend Warbler was heard on May 17.

The month of May brought several other pleasant surprises, due, no doubt, to the continuous rains during the first part of the month. On May 11 the notes of a belated Robin reached me twice, and on Commencement Day (May 12) I was awakened in the early morning by the song of the Long-tailed Chat.—AMELIA S. ALLEN, *Berkeley, California.*

Scaup Ducks Breeding in Golden Gate Park, San Francisco.—In the summer of 1914 Dr. Otto Westerfeld, of San Francisco, told me that he had come across a young brood of Scaup Ducks (*Marila* sp.?) while strolling along the border of one of the lakes in Golden Gate Park, and was much surprised to find this duck breeding there.

Following up his report I made it a point to visit the park this season (1915) for the purpose of ascertaining if this species was breeding there again. While one or two adult Scaups were in sight at the time of my last visit, in July, there were no indications of their nesting, and upon questioning the man who has charge of feeding and looking after the ducks and geese in the park I was informed that no Scaups had bred there this year. But on that day I met an old friend—Mr. Stanley Forbes, a life member of the California Academy of Sciences,—who was practicing fly-casting at the club platform on Stow Lake, and mentioned to him my quest. He was interested in the duck question, and together we remarked upon the number of families of Mallards (*Anas platyrhynchos*) of all sizes, from a few days old to two-thirds grown, that were on the lake and even in sight as we were talking.

Some weeks later I met Mr. Forbes on the street and he informed me that only two or three days after our meeting in the park he was again practicing on the lake when two or three families of Scaup Ducks appeared, the ducklings being apparently but two or three days old. He stated that the youngsters did not seem to thrive, as many lagged listlessly behind their mothers, and subsequent observations led him to believe that few, if any, survived for any length of time. Being absent from San Francisco for some weeks after the first meeting with Mr. Forbes above mentioned, I had no opportunity to carry on personal observations; but I will say that this gentleman's word is to be relied upon as far as concerns the breeding of one of the two species of Scaups; yet, as he only knows them both as "Bluebills", he could not say which of the two it was. However, as the breeding in this latitude and locality of either species is a record, I beg herewith to submit the case as it stands.—JOSEPH MAILLIARD, *San Francisco, California.*

THE CONDOR

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EDITORIAL NOTES AND NEWS

According to AVIFAUNA No. 11, California has 541 species and subspecies of birds. It may be of interest to compare this figure with those for other states. Myron H. Swenk (in *Nebraska Blue Book*, 1915, page 835) has assembled the following data. There is as yet no report for Texas, but that state probably follows California as a close second. Nebraska comes third with 418 species (Swenk, 1915); then, west of the Mississippi, Colorado with 397 (Cooke, 1911), Kansas with 379 (Bunker, 1913), Missouri with 383 (Widmann, 1907), Iowa with 354 (R. M. Anderson, 1907), and Arkansas with 255 (A. H. Howell, 1911). East of the Mississippi the largest list seems to be that of New York with 411 (Eaton, 1910-14), while Maine has 327 (Knight, 1908), Connecticut 329 (Sage and Bishop, 1913), West Virginia 246 (Brooke, 1913), Michigan 326 (W. B. Barrows, 1912), Illinois and Wisconsin, combined, 398 (Cory, 1909), and Alabama 275 (Oberholser, 1909). Westwardly, Washington has 372 species (Dawson and Bowles, 1909) and Arizona 362 (Swarth, 1914).

Mr. W. C. Bradbury, a retired capitalist of Denver, has been devoting most of his time the past three years to assembling a collection of birds' eggs for the Colorado Museum of Natural History, of which institution he is a trustee. His efforts have resulted in a representation of some 600 different species, with many fine series, occupying twenty-eight large show-cases. As can be readily inferred new things are now coming in very slowly.

William Alanson Bryan, Professor in the College of Hawaii, has just gotten out a book entitled "Natural History of Hawaii." Of the five "sections," one is devoted to the animal life of the archipelago, and of this section a consideration of its remarkable bird-life naturally occupies the larger part. Mr. Bryan is, of course, especially well equipped to handle this part of his subject with authority and in entertaining style.

We have to record the sad news of the death of Gaylord K. Snyder, active member of the Cooper Ornithological Club, who passed away at his home in Los Angeles, August 28, 1915. Mr. Snyder was a young man of most pleasing personality, a frequent attendant at Southern Division meetings, where his presence will be greatly missed, and an occasional contributor to THE CONDOR. In his untimely death the Club has sustained a distinct loss.

PUBLICATIONS REVIEWED

LITTLE BIRD BLUE | By WILLIAM L. and IRENE FINLEY | with illustrations by | R. Bruce Horsfall | and from photographs | [vignette] | Boston and New York | Houghton Mifflin Company | The Riverside Press Cambridge | 1915 | ; pp. 1-60. ($0.75 net.)

The offering of the above title is a charming little volume which may be read aloud to the children as a bedtime story; and then around the circle it must go for each little auditor to look long and lovingly at little Bird Blue perched on Phoebe Katherine's head or William's careful fingers,—and suddenly we realize that it is long past the children's bedtime!

The story deals with three months in the life of a bluebird, from the time he was found orphaned and nearly dead in the nest box under the eaves until he answered the call of his race one autumn day.

The recital of Bird Blue's rearing interests the children greatly and brings to them many bits of wisdom regarding birds and bird conservation; while the photographs reproduced in the book are a perfect delight to child-lovers and bird-lovers alike. The drawings are for the most part good. However, we refuse to accept the "sharp-fanged creature" on page 12 as a prowling cat! It

seems to us that a cat which looked less like a ravenous lion and more like a demure pussy would better make us realize that it is not only the starving outcast which menaces our bird-life but also the purring feline by the hearthside.—H. W. GRINNELL.

OUR SHOREBIRDS AND THEIR FUTURE. By WELLS W. COOKE, Assistant Biologist, Bureau of Biological Survey. [From Yearbook of Department of Agriculture for 1914, pp. 275-294, pls. 21-23, figs. 16-18.]

In this paper Professor Cooke sets forth accurately and forcibly the main facts and factors in the shorebird situation. The diminution which began to be noticeable in the seventies continued at an accelerated rate, owing to excessive shooting, until several once plentiful species were threatened with extermination, and one of them had actually become extinct. It is emphasized that this was the result of the poorest sort of business policy; for the sport value of our shorebirds is great, and with an approach to former numbers should amount to vastly more. The recently enacted Federal regulations give promise of relieving the stress put upon the birds by spring-shooting. But only time will show whether or not these regulations are sufficient to cause a definite return towards former numbers. A slight improvement is thought by some to be already apparent.

Of course, with such species as depended at one season or another upon territory now under close cultivation, no great revival can be expected. Thus the Upland Plover, Mountain Plover, and Long-billed Curlew have had their breeding grounds largely appropriated for wheat raising or dairying. On the other hand, the Wilson Snipe and Woodcock must rest their cases chiefly in the hands of the gunner, or rather, in the laws which govern the gunner; for there is yet plenty of land suited to summering and to wintering of these birds.

There could be no better illustration of the practical application of purely scientific knowledge, than in the present instance, where the proper treatment of a valuable National asset must rest upon the accumulation of facts in distribution and migration of birds. The worthy efforts of Professor Cooke and his co-workers in the United States Biological Survey to ascertain the facts of bird migration, and to solve the complex problems presented, have occupied years. Marked success has been achieved, enough of success to now warrant generalizations of great economic importance as well as of deep scientific value. But problems remain, and vastly more facts must be garnered; nothing must be allowed to interrupt the course of these painstaking investigations.

The paper here noticed can be had for the asking; and because of the interest attaching to its subject and the fascinating style in which this subject is treated, there is every reason why each Cooper Club member should possess himself of a copy,—and not only that, but profit by knowing every bit of its contents.—J. GRINNELL.

A DISTRIBUTIONAL LIST OF THE BIRDS OF CALIFORNIA, by JOSEPH GRINNELL. (Pacific Coast Avifauna Number 11. Published by the Cooper Ornithological Club, October 21, 1915. Pp. 1-217, 3 plates.)

Every student of California birds, whether the amateur, painstakingly groping toward an acquaintance with the commoner species, or the advanced specialist in search of accurate information, will acclaim the appearance of this publication as something greatly needed, and, as need hardly be said, exceptionally well done. Dr. Grinnell, both from his official position and personal predilection, has been in a peculiarly advantageous situation for the production of this work, the activities of the museum of which he is the head being largely directed toward the accumulation of data relating to the distribution of California animals, while as editor of THE CONDOR he is naturally in a favorable position for hearing of the discoveries of others.

The real need of such a distributional list is shown in the exhaustion of the edition of the same author's "Check-List of California Birds" (Pacific Coast Avifauna No. 3), for which, though out of print several years, there are inquiries constantly received at the Cooper Club's business office. The present publication is an amplification of the earlier "Check-List", covering no wider a scope, but treating the subject with an elaboration of detail justified by the great accumulation of data since acquired. It treats purely of the distribution of species within the state of California, other phases, of life history or systematic status, being ignored save as incidental to the elucidation of ranges.

Statements of distribution, more especially of land birds, are made largely in terms of "life zones" and "faunal areas", and the whole book, in the resulting conciseness of phrase and clear conveyance of ideas, is a striking justification, or rather exemplification, of the practical usefulness—the

truth—of these conceptions. There are maps, of course, showing life zones and faunal areas, for use in connection with the text; and with this combination it would seem that even those most skeptical of the life zone concept, cannot but see the convenience and accuracy of this method of treatment. In fact, in such a state as California, with its wonderful diversity of surface and climate, it is difficult to see how any other phraseology could be at all satisfactory. Under conditions as uniform as those prevailing in many of the states east of the Rockies, where perhaps there may be but a single life zone represented, it is probably necessary to define ranges by political boundaries, but such a procedure in this state would be at best but clumsy and inaccurate.

In this connection we would draw especial attention to the introductory chapter on "Distributional Areas." Life zone ideas and phraseology have been used more and more by those qualified to handle such tools accurately, until they have come to permeate also the activities of many naturalists with but superficial or erroneous conceptions of the real meanings of the expressions they use so freely. The reviewer has listened to many more or less informal talks as well as set lectures, to mixed audiences or regular classes, in which the speakers were but too evidently possessed of the haziest ideas as to the distinctions they sought to use. Life zones, of course, have long been clearly explained, and the theories upon which they rest elucidated and enlarged upon, by Dr. C. Hart Merriam; but certain distributional terms, such as "faunal areas", "regions", etc., used so frequently of late, and in rather different senses from those in which they are found in older literature on the subject, have proved sources of confusion to many. Dr. Grinnell's explanatory chapter is so clear an exposition of this complicated subject, at least as regards conditions on the Pacific Coast, and of the sense in which he uses the several terms, that it should certainly be carefully perused by all interested in the study. To the reviewer's notion it might well be inserted entire in any educational text-book treating of the subject of geographical distribution. Of the three accompanying plates, two, showing, respectively, the Life Zones and Faunal Areas of California, are indispensable to an understanding of the accompanying text. The third is also most interesting and illuminating, showing extent of Life Zones on four cross-sectional profiles across the state.

The treatment of species is practically the same as in the author's previously published "Check-List of California Birds", though with far greater elaboration of detail. The accepted current name of each species is preceded by a running number, and, in parenthesis, the A. O. U. Check-List number. A list of synonyms includes probably all scientific names applied to the species in literature pertaining to California, and such English names as have been in general use. As these names are all included in the index, this is a feature of the publication that should be eminently useful to the local bird student. He can in a moment identify any bird name encountered in his reading. In the "status" there is abundant and most satisfactory citation of authorities, references mostly to literature, or to collections. The publication is, however, by no means merely a compilation of already published facts, but contains a vast amount of previously unpublished data. For much of this the field activities of the Museum of Vertebrate Zoology are responsible, though other large local collections have also contributed. Of special interest are the citations from Belding's unpublished manuscript of the "Water Birds of the Pacific District."

Five hundred and forty-one species and subspecies are included in the main list, of which one hundred and sixty-eight are water birds. The "Hypothetical List" numbers sixty-one. The order, and for the most part the general treatment, of the A. O. U. Check-List is followed, the most noticeable deviation from this standard lying in the rather liberal inclusion of slightly defined subspecies not admitted to the Check-List. Of the groups of birds largely represented within the state, attention may be drawn to the eleven races of Fox Sparrow (*Passerella iliaca*) here recognized, calculated to bring deeper despair to the heart of the amateur (and to some who are not amateurs) than the even longer list of California's song sparrows.

Two species are added to the state list, the Wilson Petrel (*Oceanites oceanicus*), and the Oregon Chickadee (*Penthestes atricapillus occidentalis*), on the basis of specimens in the collection of the Museum of Vertebrate Zoology. Another species, the Sonoma Thrasher (*Toxostoma redivivum sonomae*) is here first given a name (page 155). We do not understand the reason for including this diagnosis in a work of such a nature, and do not consider it a desirable procedure. There are many reasons why it would seem best to have given this

description previous publicity through some other channel, while there are no apparent advantages in the course adopted.

The reviewer is in a position where he is the constant recipient of requests from beginning bird students for the recommendation of some book or books treating of California birds, and it is a great satisfaction to be able conscientiously to urge the acquisition of a work such as the one here noticed. The judicious use of Grinnell's "Distributional List of California Birds", in conjunction with the same author's "Bibliography of California Ornithology" (Pacific Coast Avifauna No. 5) cannot fail to give a fund of accurate information along the line desired, as well as to point the way to sources of knowledge on related subjects not covered in these books. To the advanced specialist in ornithology, of course, this "List" will be an absolute necessity.

It goes without saying that the Cooper Club is congratulating itself upon the appearance of this, its latest and largest publication. Many and devious are the shifts to which the business office of the club has been put in the successful production of club members' contributions to knowledge, but the firm belief that the demand for worthy publications would eventually pay the cost of production is finding justification in the steadily increasing call upon the stock in hand. The demand for the "Distributional List of California Birds" should go far toward placing the Pacific Coast Avifauna branch of the Club's publishing business upon as firm a financial basis as is THE CONDOR.—H. S. SWARTH.

MINUTES OF COOPER CLUB MEETINGS

NORTHERN DIVISION

MAY.—A meeting of the Northern Division of the Cooper Ornithological Club was held at the Y. W. C. A. Auditorium, Panama-Pacific International Exposition grounds, San Francisco, California, May 19, 1915, at 4:30 P. M., at the close of the second afternoon session of the American Ornithologists' Union. President Joseph Mailliard was in the chair, with the following members present: Mesdames Allen and Bryant, Messrs. Bade, Bryant, Dwight, Evermann, W. K. Fisher, Grinnell, Horsfall, Law, Loomis, E. C. Mailliard, Nichols, Ohl, Palmer, Sage, Shelton, Storer, W. P. Taylor, Tyler, Wells, and Wilson.

The minutes of the April Northern Division were read and approved and the minutes of the Southern Division March meeting read. The following were elected to membership: F. W. Henshaw, and the four persons proposed at the Southern Division March meeting. The following applications for membership were read: C. M. Goethe, 2617 K Street, Sacramento, proposed by H. C. Bryant; Mrs. Carlotta C. Hall, 1615 La Loma Avenue, Berkeley, proposed by J. Grinnell; Miss Georgia V. Miller, 419 Golden Gate Avenue, San Francisco, proposed by H. L. Coggins; and Ashby D. Boyle, 351 5th Avenue, Salt Lake City, Utah, proposed by R. H. Palmer; and from the Southern Division four persons proposed at their April meeting.

The Secretary stated that a communication had been received from the Pacific Division of the American Association for the Advancement of Science, inviting Cooper Club members to become members of the American Association. Adjourned.—TRACY I. STORER, *Secretary*.

SEPTEMBER.—The regular monthly meeting of the Northern Division of the Cooper Ornithological Club was held in Room 102, California Hall, University of California, Berkeley, September 16, 1915, at 8 P. M. President Joseph Mailliard was in the chair with the following members present: Mesdames Bryant and Allen, and Messrs. Bryant, Carriger, Ohl, Storer, Trenor and Willett.

The minutes of the Northern Division May meeting were read and approved. Upon motion, duly carried, reading of the minutes of the Southern Division for the last four months was dispensed with. The following were elected to membership: C. M. Goethe, Mrs. Carlotta C. Hall, Miss Georgie V. Miller, and Ashby D. Boyle. Due to the time which has elapsed since the last meeting all persons proposed for membership at the Southern Division during the summer months were elected to membership. Applications for membership were received as follows: Miss Cornelia C. Pringle, Cupertino, proposed by Miss Hazel King; Miss Lydia Atterbury, 2620 LeConte Ave., Berkeley, and C. A. Purington, 2223½ Chapel St., Berkeley, both proposed by Tracy I. Storer.

A communication signed by J. Grinnell, W. Lee Chambers, Frank S. Daggett, and Harry S. Swarth, proposing for honorary membership in the Club, Mr. Henry W. Henshaw, Chief of the Bureau of Biological Survey, was read. It was decided to notify

Northern Division members of this application when the October meeting notices are sent out.

A communication from Mr. A. L. Barrows, secretary of the Pacific Division of the A. A. A. S., was read, asking that the Northern Division appoint a representative for the Affiliation Committee of the Association.

The Club then adjourned to attend a lecture by Dr. W. T. Hornaday, Director of the New York Zoological Park, on the subject, "Shall We Increase our Big Game on a Food Supply Basis?" Adjourned.—TRACY I. STORER, *Secretary.*

SOUTHERN DIVISION

AUGUST.—The regular meeting of the Southern Division was held at the Museum of History, Science and Art, Los Angeles, Thursday evening, August 26, 1915. President Law was in the chair, and the following members present: Miss Germain, Mrs. Husher, and Messrs. Brown, Chambers, Daggett, Enoch, Holland, Ingersoll, Nokes, Rich, Shepardson, Swarth, Wood, and Wyman. Visitors present were Mrs. Nokes, Mr. Daniel, and Mr. Arra Darhanian.

The minutes of the July meeting were read and approved. New members elected were: S. D. Moles, Claremont, and Wade L. Enoch, Tropico. New names presented were: F. E. Garlough, Gladstone, Oregon, proposed by S. G. Jewett; Nat T. Sabin and Eugene P. Sabin, both of Hollywood, California, proposed by J. Eugene Law.

Mr. Law exhibited a series of woodpeckers, including most of the North American species. Adjourned.—H. S. SWARTH, *Secretary.*

SEPTEMBER.—The regular meeting of the Southern Division was held at the residence of Dr. L. H. Miller, on Sunday afternoon, September 26. President Law was in the chair, and the following were in attendance: Mrs. Husher, Mrs. Myers, Mrs. Pleasants, the Misses Atsatt, Dodge, Drachman, Hollister, Moore, and Palmer, Mr. and Mrs. Chambers, Mr. and Mrs. Daggett, Mr. and Mrs. Howell, Dr. and Mrs. Miller, Dr. and Mrs. Stivers, Mr. and Mrs. Sabin, Mr. and Mrs. Law, and Messrs. Davis, Holland, Jewett, Pierce, and White.

The minutes of the August meeting were read and approved. New members elected were: Nat T. Sabin, Eugene P. Sabin, and F. E. Garlough. Mrs. Myers spoke on "the Hornaday plan" for ensuring a permanent supply of big game. Mr. Law read a letter from Allan Brooks, now with the British Army in France. Mr. Pierce spoke on bird conditions at Bear Lake and other points in the San Bernardino Mountains, which led to a general discussion of experiences of various members during the summer just past. Adjourned.—W. LEE CHAMBERS, *Secretary, pro tem.*

INTER-MOUNTAIN CHAPTER

SEPTEMBER.—A meeting of the Inter-Mountain Chapter of the Cooper Ornithological Club was held at Salt Lake City, Utah, September 14, 1915, in the office of Dr. D. Moore Lindsay, Boston Building. The meeting was called to order at 8:30 P. M., Dr. D. Moore Lindsay presiding. Members in attendance were: J. Sugden, Jr., C. Barnes, J. H. Paul, D. Moore Lindsay, A. O. Treganza, Mrs. A. O. Treganza. The minutes of the May meeting were read and approved.

A study of the local breeding Gulls, Terns, Cormorants and Pelican was begun. J. Sugden exhibited a very interesting skull of *Larus californicus*, D. Moore Lindsay some skins of the Caspian Tern and Bonaparte Gull, and Mrs. A. O. Treganza read the Treganza notes and observations on these species.

Mr. A. O. Treganza reported on the slaughter of the Sage Hen in northeastern Utah, from which locality he had recently returned. A. O. Treganza and J. H. Paul were appointed as a committee to present the matter to the State Game Warden for immediate action. Meeting adjourned at 10:30 P. M.—MRS. A. O. TREGANZA, *Secretary.*

OCTOBER.—A meeting of the Inter-Mountain Chapter of the Cooper Ornithological Club was held at Salt Lake City, Utah, October 12, 1915, in the office of Dr. D. Moore Lindsay, Boston Building. President Lindsay was in the chair, and the meeting was called to order at 8:30 P. M. Members present were: C. Barnes, J. A. Mullen, D. Moore Lindsay, A. O Treganza, Mrs. A. O. Treganza. Mr. D. W. Parratt was a visitor. The minutes of the September meeting were read and approved.

The evening was given over to a round table talk and open discussion of local breeding ducks. Many early and late records were given. President Lindsay exhibited some very interesting sets of ducks' eggs showing the parasitic tendencies of certain species of this family. Meeting adjourned at 10:30 P. M.—MRS. A. O. TREGANZA, *Secretary.*

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C

For Sale, Exchange and Want Column.—In this space members of the Cooper Club are allowed one notice in each issue free of charge. Books and magazines can be offered for sale or exchange; bird skins and eggs can be offered in exchange, but *not for sale*. For this department address W. LEE CHAMBERS, *Eagle Rock, Los Angeles County, California.*

WANTED—The address of H. H. Kimball now in California.—JOHN E. THAYER, *Lancaster, Mass.*

FOR EXCHANGE—A number of volumes of the *Auk* in original covers; also foreign and native bird skins, for A1 skins of western or foreign birds.—HENRY K. COALE, *Highland Park, Ill.*

FOR SALE—CONDOR, 1907 to 1915; *Oologist*, 1907-1915; *American Ornithologist*, 3 volumes; a number of copies of *The Warbler*, *Auk*, *Osprey*, etc. Make offer or will consider exchange for mounted hummingbirds or Coleoptera (*Buprestidae*). Correspondence invited.—W. J. CHAMBERLIN, *Box 34, Sta. A, Ames, Iowa.*

COLLECTORS having choice sets of Sparrows and Jays to exchange please write. Also want 334, 337a, 379, 379a, and many others. All answered.—A. E. PRICE, *Grant Park, Ill.*

FOR SALE—Ridgway's Birds of North and Middle America, vols. 1-6 inclusive, original wrappers: $20.00 net.—B. F. CASE, *Tolland, Conn.*

BOOKS WANTED—Loomis' "California Water Birds," part v. Will pay any reasonable price for a copy of this.—W. LEE CHAMBERS, *Eagle Rock, Los Angeles County, California.*

FOR SALE—2 vols. Geological Survey of California, "Botany," 1876-1880; Journal of conchology, vols. 1, 2, 3, and 4, complete, bound in morocco, colored edition; Manual of conchology, vols. 1-6, complete, original covers and in very fine condition, colored editions. Plates carefully colored by hand by Geo. W. Tryon. Very desirable books for specialists or libraries.—EVAN DAVIS, *339 E. Palmyra Ave., Orange, Calif.*

I WANT one copy each of "The Blue Bird", vol. 6, nos. 1 and 2, published at Cincinnati, Ohio; edited by Dr. Eugene Swope. —W. LEE CHAMBERS, *Eagle Rock, Los Angeles County, California.*

BOOK INFORMATION WANTED—Will each owner of complete files of the *Auk* look at first six volumes and see if they are the ones which bear the autograph of my father, H. B. Bailey, on the front page. If you know of the whereabouts of these volumes communicate with me and oblige.—H. H. BAILEY, *Newport News, Virginia.*

WANTED—Copies of any of the following publications. Nidiologist, vol. 1, no. 2, Oct., 1893; Osprey, N. S., 1902, March, April and July; Oologist, May and December, 1897, April and September, 1899; Wilson Bull., no. 4, 1894.—B. H. SWALES, *Grosse Isle, Mich.*

WANTED—Complete sets of Wilson Bulletin and Ornithologist & Oologist; also Forest and Stream before 1896.—JOHN C. PHILLIPS, *Windyknob, Wenham, Mass.*

TO EXCHANGE—*Auk*, vol. 22 (1905), in clean numbers for any vol. *Auk* in similar condition except vols. 16 (1899) to 26 (1909) inclusive.—B. F. CASE, *Tolland, Conn.*


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